COURSE MODULES

LEVEL 1.1

Design & Typography (Motion Type)
The module is designed to introduce to the students the role of visual design in communication and how to integrate graphic and typographic elements in images be it for print or video. Students will acquire hands on knowledge on the practice used in the creation of basic design composition.

Drawing & Perspective
This aim of this module is to introduce first year students to the fundamentals of drawings. Various Drawing medium and drawing techniques utilized by accomplished Artists will be introduced in this module. Through course assignments and exercises, students will acquire key technical skills required to accurately draw from observation. Upon the completion of this module, student will have the skills to discern a good drawing. The skills acquired from this module such as the understanding of forms & space, value relationships, perspective and contours are instrumental for future modules such as Form and Space, Computer Graphics and other animation related modules.

History of Film & Motion Arts
The History of Film & Motion Arts will explore the history and evolution of animation and visual/special effects within the context of worldwide cinema. Particular attention will be paid to the key developments and milestone achievements within these fields. This course will use numerous screenings to illustrate the aesthetic, commercial and technological advancement of animation from its earliest incarnations to the computer-generated spectacles of today. Similarly, the history of visual/special effects will be traced with an emphasis on the landmark technological advancements that have made their integration into motion pictures and television possible.

Introduction to Visual Effects
This module is designed to equip students with the basic knowledge and skills in the creation of computer graphics. Students will acquire hands on knowledge on the tools used in the creation of Visual Effects, and its production stages. Students will work on a project, which requires foundation of visual effects techniques. This module is compulsory for all first year VFX students and will serve as a foundation for other CGI related 2nd and 3rd year modules.

Location Production
This module is an introduction to single-camera film-style video production. This module aims to provide students with a basic theoretical and practical introduction to video production techniques and equipment, aesthetics and planning and organizing the video production.

LEVEL 1.2

3D Form & Space
This module aims to develop students' ability with representing ideas through 3 dimensional form and space. Students are encouraged to explore different materials such as malleable wire, paper/paper mache, clay, plastercine and Super Scupley. To gain a better understanding of the human form, human anatomy will be introduced. Deliverables from this module will facilitate and support progressive learning in future modules such as Hardware Modelling & Animation and Polysculpting at level 2.

Animation Foundation
This module is designed to introduce students to the principle of animations through traditional "cell" animation. Students will acquire proper knowledge of animation production pipeline and animation principles through the assignments introduced in this module. They will also be introduced to the materials and equipment commonly used in producing a tradition animation sequence. Various aspect of character design will also be introduced.

Camera & Lighting 1
This module exposes students to the technical and aesthetic aspects of digital image acquisition through the use of still and video camera. Subjects include use of digital cameras, exposure, existing light, lighting setup, pictorial composition and image adjustment with Adobe Photoshop. Students will receive technical and creative

instruction during lectures. They will build their technical skill through workshops and exercise their creative expression through project assignments. It is a foundation course for VFX.

Hardware Modelling & Animation

Building on their foundation from 3D Form & Space module, student will learn the principles, concepts and techniques of 3D asset creation in the process of creating real world hard surface objects using Maya. Through reference image & video collections, students will focus on detailed 3D modelling by breaking down CG assets into various parts, default 3D lighting and exposure to animation & rendering through 3D turntable deliverables for their portfolio.

Storyboarding & Storytelling

This module focuses on storyboarding and storytelling skills for the students. A series of exercises will develop techniques that enhance the student's ability to visualize and sketch shot sequences and camera moves. Students are instructed in simple sketch techniques to expand their ability to communicate visual concepts to other artists. Also, this module is designed to assist students in the techniques of storytelling. They will create meaning through stories that reflect their own lives and imaginations. Both written and oral exercises and assignments will allow students to create stories within a structured framework

COURSE CURRICULUM

Module Name	Credit Units
YEAR 1	
Level 1.1 (26 hours per week)	
Design & Typography (Motion Type)	3
Drawing & Perspective	5
History of Film & Motion Arts	4
Introduction to Visual Effects	3
Location Production	5
Innovation Toolkit ^	4
Sports & Wellness ^	2
Level 1.2 (26 hours per week)	
3D Form & Space	5
Animation Foundation	4
Camera & Lighting 1	4
Hardware Modelling & Animation	4
Storyboarding & Storytelling	3
Career & Professional Preparation I	2
Exploring Contemporary Issues ^	4

Notes:

^ For more details on Interdisciplinary Studies (IS) electives, please log on to www.np.edu.sg/is/

IS Modules

The School of Interdisciplinary Studies (IS) delivers a broad-based curriculum, which nurtures a new generation of professionals with multidisciplinary skills and an innovative and entrepreneurial spirit to meet the challenges of a knowledge economy. IS offers both prescribed modules and electives to challenge boundaries. Prescribed modules develop students' competencies in core areas such as Communication, Innovation and Enterprise, Culture and Communication, and Personal Mastery and Development, while elective modules provide insights into Arts and Humanities, Business, Design, and Science and Technology.

COURSE MODULES

LEVEL 2.1

Camera & Lighting 2
For every student to enhance their understanding of the craft, methods, and aesthetics of camera and lighting works to be used in digital effects and stereoscopic productions. Students will continue learning from the video camera basics and advancing in the use of both two-dimension and stereoscopic equipment. However, they will have that knowledge supported by a broad understanding of how camera and lighting works create and enhance production. This course will stress developing a well-rounded cameraperson who will be able to excel in his/her craft while working well with the other members of the team.

Compositing 1
The student will be introduced to the basic foundation and underlying principles of compositing and image manipulation. Students will learn the concept of chroma keying, matte extraction, and CG compositing as well as other processes involved in compositing. This module would also expose students to work with Node Based compositing package.

Motion Graphics & Broadcast Design
This module is designed to introduce students the motion graphics in digital media and understand workflow to apply skills for broadcast project. Students will be equipped skills in media design such as visual design in motion, computer generated graphics and video production. Project based practice is planned to design project and create commercial video.

Polysculpting
This module is designed to further build on student's 3D asset creation skills by introducing them to the 3D polysculpting process. Students will learn to sculpt digitally and add fine details on CG assets and utilize the workflow of creating texture maps and applying high resolution maps onto lower resolution geometry and apply rendering techniques for their CG portfolios.

Visual Communication
This module aims to introduce students to the applications of colour theory in character and environment design. Through practical sessions in digital paintings, students can look forward to understanding principle of colour organization, additive and subtractive mixing systems. They will also develop complex colour sensitivity and become familiar with various colour strategies used by both traditional and digital artists.

LEVEL 2.2

Compositing 2
The student will advance their compositing skill sets to the next level. Students will also learn 3D stereoscopic compositing workflow. This module would also expose students to Nuke scripting and expressions, working intensively in Nuke 3D environment.

Effects Animation 1
Students are introduced to the techniques to work with Maya dynamics systems to create natural & supernatural phenomena. The principle focus is on using simulation with fluid, nParticle, rigid/soft body & nCloth systems.

Lighting & Rendering
This module explores look making and development for digital media design. In the techniques of lighting, shading and rendering for CGI, approaches of visual design will be conducted. The students will use different scheme of visualization method while lighting and shading CGI elements. For SFX and green screen filming, they will also do studio lighting for seamless visual effects.

Post-Production
This module builds on students' knowledge on editing from Location Production and seeks to develop students' creative and technical skills in the art of editing. Students having been primed in non-linear editing during the first year with Location Production will learn the finer details of narrative editing style. Through exercises, students

will have many opportunities to be familiar with the various concepts of editing. This is expected to help them have a better knowledge of variety of editing styles while at the same time preparing them for the year three "Advanced Post Production" module.

Special Effects

Students focus on Hollywood-style special effects shooting with an emphasis on practical camera techniques & miniature set creation. Students will be involved in a semester long project forming groups to create a practical miniature set, using mixed media fabrication methods and 3D printed assets, shooting 4K footage with RED cameras and finishing off using digital techniques in compositing.

COURSE CURRICULUM

Module Name	Credit Units
YEAR 2	
Level 2.1 (20 hours per week)	
Camera & Lighting 2	4
Compositing 1	4
Motion Graphics & Broadcast Design	3
Polysculpting	4
Visual Communication	3
Interdisciplinary Studies (IS) elective ^	2
Level 2.2 (22 hours per week)	
Compositing 2	4
Effects Animation 1	4
Lighting & Rendering	4
Post-Production	3
Special Effects	3
Career & Professional Preparation II	2
Interdisciplinary Studies (IS) elective ^	2

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COURSE MODULES

LEVEL 3.1

Advanced Post-Production

This module provides an opportunity for students who have mastered the fundamental technical principles and practices of post-production, to further their technical knowledge and skills in this field by learning teaching more in-depth craft and technical skills needed to edit more professionally. This module will cover compositing, tracking, working with the 3D warp effect, editing Stereoscopic 3D clips, colour correction and colour grading, working with Spectra Matte key, as well as advanced Title Tool effects.

Character Rigging & Animation
Students are introduced to the advanced applications of Maya in the areas of technical setup, character rigging and animation. Students will gain a foundation in planning, executing and solving the technical aspects in a 3D pipeline, with a focus on maintaining a disciplined and logical workflow that integrates with the other aspects of pre-production, production and post-production. All projects will provide students with hands-on experience in incorporating various skills, platforms and mechanisms to achieve the desired impact in the marketplace.

Effects Animation 2
This module builds on previous effects knowledge and students will be exposed to intermediate effects workflows through the breakdown of case studies from notable effects simulation examples. The principle focus is on using Fluids, nParticles/Particles, Rigid/Soft Body Simulations in tandem overlaying different effects systems that interact with each other.

Set Extension
Students are introduced to the techniques in creating matte painting and set extension. Students would be able to effectively plan/design and build a visually interesting matte painting to be used to extend an existing environment that they have shot or built in CGI. Students will also be advancing their skill set to integrate 2D and 3D elements for realistic digital contents

Professional Communication
This module introduces skills in two subsets of Professional Communication. In the context of spoken communication, students will study the structures of informative and persuasive speeches, as well as ways to deliver presentations. In the written context, Students will study the mechanics of CV & portfolio composition, email/correspondence techniques, and proposal/pitch writing. Students will acquire the necessary knowledge and develop skills to become composed, credible and articulate communicators in a variety of professional situations. This module is tailored to prepare VFX students for job interviews.

LEVEL 3.2

Internship (Local/Overseas)
Students will be placed on an internship with companies and agencies matching their abilities and interests. The internship gives students opportunities to apply their acquired knowledge and skills to the work environment. Students gain valuable work experience and exposure to the rigour, demands and excitement of the media industry, enabling them to adapt effectively to future employment. Many of our students are offered employment by these same companies.

COURSE CURRICULUM

Module Name	Credit Units
YEAR 3	
Level 3.1 (22 hours per week)	
Advanced Post-Production	3
Character Rigging & Animation	4
Effects Animation 2	4
Set Extension	4
Professional Communication	3
World Issues : A Singapore Perspective ^	2
Interdisciplinary Studies (IS) elective ^	2
Level 3.2 (22 hours per week)	
Internship (Local/Overseas)	22

Notes:
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